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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,668	10/31/2001	Andrew James Seeley	M00B130	2446

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The BOC Group, Inc.
Intellectual Property Department
100 Mountain Avenue
New Providence, NJ 07974

EXAMINER

MEDINA SANABRIA, MARIBEL

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 03/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/002,668

Applicant(s)

SEELEY, ANDREW JAMES

Examiner

Maribel Medina

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 10-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 10-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 1 and 18 are objected to because of the following informalities: in claim 1, 3rd line "3" should be deleted and in claim 18, 2nd line "2" should be deleted. Appropriate correction is required.

Response to Arguments

2. Applicant's arguments, see page 9, 2nd paragraph on paper filed on 12/22/2003, with respect to the rejection(s) of claim(s) 1, 12 and 16 under 35 USC 102(b) as anticipated by EP 802370 and under 35 USC 103(a) for dependent claims 10-11, 13-15, and 17-33 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US Patent No. 6,261,524 (See rejection below). The new grounds of rejection are necessitated in view of the amendment of claim 1.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 16, 17, 18, 25, 26, and 33 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by US Patent No. 6,261,524 (Herman et al).

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Herman et al disclose a process for the decomposition of noxious substances (i.e. PFC's) from a gas stream which comprises injecting the gas stream and added fuel gas as a mixture into a heated reaction chamber at a temperature in the range from 650-950°C (See col. 2, lines 1-20).

In regards to the limitation of claim 1 that reads, "with sufficient oxygen to allow substantially complete combustion therein", Herman et al disclose the use of oxygen (See col. 2, lines 13-15).

In regards to the limitation of claim 1 that reads "wherein hydrogen is also present in the chamber as a fuel gas" Herman et al disclose the use of hydrogen (See col. 2, lines 13-15).

In regards to claim 16, Herman et al disclose that the reaction chamber is a heated metal tube (See Figure 2).

In regards to claims 17 and 25, Herman et al disclose that the reaction chamber is heated with electrical means (See col. 3, lines 63-67).

No difference is seen between the instantly claimed invention and Herman et al disclosure.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 10-15, 19-24, and 27-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herman et al as applied to claims 1, 16, 17, 18, 25, 26, and 33 above, and further in view of US Patent No. 5,510,093 (Bartz et al).

Herman et al apply herein as above.

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In regards to claims 10, 11, 19, 20, 27 and 28, Herman et al fail to disclose the amount of oxygen added as a "mixture having 10 to 150 % stoichiometric excess of oxygen over the fuel gas" and "mixture having 80 to 150 % stoichiometric excess of oxygen over the fuel gas" as instantly claimed.

Bartz et al is relied upon to teach a process for the combustive destruction of halogenated compounds with the addition of excess oxygen and a fuel to the waste gas stream. The fuel may be hydrogen (See col. 2, lines 50-52). Bartz et al teach in col. 2, lines 40-45, that "Generally, to achieve substantially complete combustion (at least 95%) combustion of the troublesome substances, the amount of excess air should be at least about 10 % more than the stoichiometric requirement to burn all the combustibles entering the combustion zone." Bartz et al clearly recognize that the amount of oxygen needed for the destruction of noxious substances is a result effective variable.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined by experimentation suitable oxygen amounts to be injected in the method of Herman et al such as in the instantly claimed range since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In regards to claims 12, 13, 14, 15, 21, 22,23, 24, 29, 30, 31 and 32, Herman et al, fail to disclose that the hydrogen the amount or concentration of hydrogen used in his process.

Bartz et al is relied upon to teach in col. 6, lines 34-41, "The fist two test demonstrate the critical need of supplying fuel gas admixed with the waste stream injected into the destructive zone. The second pair of tests shows that increasing the amount of a fuel gas mixed with the waste halogenated compound stream increased the combustive destruction of halogenated

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compound.” This clearly indicates that the concentration or amounts of fuel gas (e.g. hydrogen) added to the combustion chamber is a result effective variable.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have determined by experimentation the appropriate amounts of fuel gas or hydrogen to be injected in Herman et al method, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maribel Medina whose telephone number is (571) 272-1355. The examiner can normally be reached on Monday through Friday from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman can be reached on (571) 272-1358. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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SUPERVISORY PATENT EXAMINER
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Examiner
Art Unit 1754